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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,552	01/17/2006	Luigi D'Elia	279164US0XPCT	3871

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EXAMINER	
FERGUSON, CHANTEL L	

ART UNIT	PAPER NUMBER
1797	

NOTIFICATION DATE	DELIVERY MODE
04/21/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/551,552	D'ELIA ET AL.	
	Examiner	Art Unit	
	CHANTEL FERGUSON-GRAHAM	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/16/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed January 15, 2009 has been entered and fully considered.

2. The rejection under 35 U.S.C. 103(a) is withdrawn in light of Applicant's amendments.

3. The claim objection is withdrawn in light of Applicant's amendments.

4. Claims 1-13, and 15-17 have been amended by applicant.

5. Claim 2 have been canceled.

6. New claim 19 is supported by the specification as originally filed.

7. Claims 1 and 3-19 are pending and have been fully considered.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1 and 3-19 are rejected under 35 USC 103 (a) as being obvious over WESTFALL ET AL. (US PG PUB 20020116868), in combination with THOMPSON ET AL (6,419,714). Hereby referred to as WESTFALL and THOMPSON.

Regarding claims 1, 11, 12 and 19, WESTFALL discloses an aqueous hydrocarbon fuel emulsion comprised of water, fuel and an emulsifier; and a process for making the aqueous hydrocarbon fuel emulsion in a batch or a continuous process. The emulsifier component comprises (i) at least one hydrocarbyl-substituted carboxylic acid acylating agent reacted with ammonia or an amine; (ii) at least one ionic or nonionic compound having a (HLB) between 1-40; (iii) a mixture of (i) and (ii); (iv) a water soluble compound selected from amine salts, ammonium salts, etc., (v) the reaction product of a polyacidic polymer with at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent with ammonia, an amine, a polyamine, alkanol amine, or hydroxy amines; (vi) an amino alkylphenol; and (vii) the combination of (vi) with (i), (ii), (iii), (iv), (v) or combinations thereof. See page 1, paragraphs [0009] to [0018]. The polyacidic polymer in emulsifier (v) may be a copolymer of an olefin and a monomer having the structure (I) set forth in paragraphs [0125] to [0133] wherein at least one of substituents X and X_1 is such that the copolymer can function as a carboxylic acylating agent. WESTFALL teaches that the emulsifier (v) is described in greater detail in U.S.Ser. No. 09/761,482; which issued as U.S.Patent No. 6,419,714 to THOMPSON.

THOMPSON discloses emulsifiers for aqueous hydrocarbon fuels that includes but is not limited to: (i) at least one fuel-soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent with ammonia or an amine, the hydrocarbyl substituent of said acylating agent having about 50 to about 500 carbon atoms; (ii) at least one of an ionic or a nonionic compound having a hydrophilic-lipophilic balance (HLB) of about 1 to about 40; (iii) a mixture of (i), (ii); (iv) a water-soluble compound selected from the group consisting of amine salts, ammonium salts, azide compounds,

nitrate esters, nitramine, nitro compounds, alkali metal salts, alkaline earth metal salts, in combination with (i), (ii), (iii), (v) or (vi); the reaction product of polyacidic polymer with at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent with a hydroxy amine and/or a polyamine; and (vi), a mixture of (ii) and (v) (col. 1 lines 60 – col. 2 lines 50). The emulsifier may be present in the water fuel emulsion at a concentration of about 0.05% to about 20% by weight (col. 5 lines 33-37). The hydrocarbyl-substituted carboxylic acid acylating agents may be made by reacting one or more alpha-beta olefinically unsaturated carboxylic acid reagents containing 2 to about 20 carbon atoms, exclusive of the carboxyl groups, with one or more olefin polymers as described more fully hereinafter (col. 5 lines 59-64). The alpha-beta olefinically unsaturated carboxylic acid reagents may be either monobasic or polybasic in nature. Exemplary of the monobasic alpha-beta olefinically unsaturated carboxylic acid include the carboxylic acids corresponding to the formula 1 (col. 5 lines 65 – col. 6). The olefin monomers from which the olefin polymers may be derived are polymerizable olefin monomers characterized by having one or more ethylenic unsaturated groups (col. 6 lines 24-54). In one embodiment, the hydrocarbyl-substituted carboxylic acid acylating agent has a number average molecular weight of about 700 to about 1300 (col. 11 lines 35-40). The emulsifier produced from the reaction product of the polyacidic polymer with the fuel soluble product (i) comprises about 25% to about 95% of fuel soluble product and about 0.1% to about 50% of the polyacidic polymer (col. 25 lines 1-11).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the fuel of WESTFALL by incorporating selected components of said

composition of WESTFALL and by incorporating the concentrations of the composition of the anti-corrosion additive used in internal combustion engines as taught by THOMPSON.

The motivation would have been to form a combination of novel emulsifiers that are used for making an aqueous hydrocarbon fuel suitable for combustion in engines as taught by THOMPSON (col. 1 lines 15-20).

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 3 and 4, modified WESTFALL teaches a water-soluble compound selected from the group consisting of ammonium salts in combinations with (i), (ii), (iii), (v), and (vii) (paragraph 11-17).

Regarding claim 5, modified WESTFALL teaches the fuel-soluble product (i) may be at least one fuel-soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid with an alkanol amine (paragraph 109).

Regarding claim 6, modified WESTFALL teaches amines useful for reacting with the acylating agent to form the product (i) including but are not limited to amines that are primary, secondary or tertiary amines (paragraph 113).

Regarding claims 7 and 8, modified WESTFALL teaches ethylenically unsaturated group monomer of C4 – C30 carboxylic acid; C4 – C30 olefin; acrylic and methacrylic acid containing polymers; and in any combinations with (i), (ii), (iii), (v), and (vii) (paragraph 127-132 and also 99-158).

Regarding claim 10, modified WESTFALL teaches wherein the water contains about 0% to about 30% by weight of the aqueous hydrocarbon emulsion (paragraph 25).

Regarding claims 13-14, modified WESTFALL teaches that component (ii) has a HLB of about 1 to about 40 (paragraph 101).

Regarding claims 15 and 16, modified WESTFALL teaches at least one emulsifying agent is a product obtained by reaction (a1) and (a2); and (b1) with (b2) (paragraph 127-132, Formula I, and paragraph 99-106).

Regarding claims 17-18, modified WESTFALL teaches the engines are operated using said composition on compression-ignition (internal combustion); and this includes diesel engines (diesel cycle engines) (paragraph 170-171).

Conclusion

11. Applicants' amendments necessitated the new ground of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANTEL FERGUSON-GRAHAM whose telephone number is (571)270-5563. The examiner can normally be reached on M-Th 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/

Primary Examiner, Art Unit 1797

Chantel Ferguson-Graham
Chemical Examiner
Art Unit 1797